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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,124	08/11/2006	Satoshi Ohuchi	043890-0934	5757
53080 7590 11/28/2007 MCDERMOTT WILL & EMERY LLP 600 13TH STREET, NW WASHINGTON, DC 20005-3096			EXAMINER KWOK, HELEN C	
			ART UNIT 2856	PAPER NUMBER
			MAIL DATE 11/28/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/589,124

Applicant(s)

OHUCHI ET AL.

Examiner

Helen C. Kwok

Art Unit

2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 9-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date August 11, 2006
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I (claims 1-8) in the reply filed on November 13, 2007 is acknowledged.
2. Claims 9-11 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on November 13, 2007.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

4. The drawings are objected. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must

be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Figure 4 should be labeled as -- Prior Art --.

Claim Objections

5. Claims 1-8 are objected to because of the following informalities. Appropriate correction is required.

In claim 1, line 5, the word -- the -- should be inserted before the word "two". In line 5, the phrase "the X-axis direction" should be changed to -- a X-axis direction --. In line 8, the phrase "the center line" should be changed to -- a center line --.

In claim 8, line 4, the phrase "the Y-axis direction" should be changed to -- a Y-axis direction --.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 2 and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 2, line 3, the phrase "the lower electrodes" lacks antecedent basis. In line 6, the phrase "the lower electrodes" lacks antecedent basis.

In claim 4, line 2, the phrase "the lower electrodes" lacks antecedent basis. In line 4, the phrase "the lower electrodes" lacks antecedent basis.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 7,002,284 (Ouchi et al.) in view of U.S. Patent 5,854,427 (Terada et al.).

Ouchi et al. discloses a resonator gyro having a tuning fork structure comprising, as illustrated in Figures 1-14, a tuning fork resonator 1 formed of non-piezoelectric material includes two arms 2,3 and a base portion 4 for connecting the arms; first piezoelectric films 14,15 provided with upper electrodes 18,19 on a main surface 5 of at least one of the two arms from each other with a center line as a boundary; second

piezoelectric films 16,17 having upper electrodes 20,21 formed on a main surface 5 of at least one of the two arms from each other with a center line as a boundary. (See column 4, line 24 to column 9, line 40). The only difference between the prior art and the claimed invention is the arrangement of the first piezoelectric films and upper electrodes are used for exciting the tuning fork on one arm and the second piezoelectric films and upper electrodes are used for monitoring amplitude of on the other arm. Terada et al. discloses an angular velocity sensor having a tuning fork structure comprising, as illustrated in Figures 1-8, a tuning fork 3 with two arms (as observed) includes a first piezoelectric films 4 or 5 and upper electrodes 11,12 or 7,8 on one of the arms are used for exciting the tuning fork and a second piezoelectric films 4 or 5 and upper electrodes 13,14 or 9,10 on the other arm are used for monitoring amplitude of the arm. (See column 2, line 56 to column 4, line 26). It would have been obvious to a person of ordinary skills in the art at the time of invention to have readily recognize the advantages and desirability of employing the arrangement of the piezoelectric elements and upper electrodes as taught by Terada et al. to the apparatus of Ouchi et al. to improve the detection characteristics by eliminating the influence due to noise from the driving signals. (See column 1, lines 33-35; column 1, line 58 to column 2, line 3).

With regards to claims 2-8, Ouchi et al. further disclose the arrangements and configurations, as presently claimed, for the first piezoelectric elements and upper electrodes thereof and the second piezoelectric elements and upper electrodes thereof and lower electrodes associated with the first and second piezoelectric elements. (See column 4, line 24 to column 9, line 40; as observed in the figures).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The references cited are related to resonator having a tuning fork structure with different electrode arrangements.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen C. Kwok whose telephone number is (571) 272-2197. The examiner can normally be reached on 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

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USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read "Helen Kwok", written over a horizontal dashed line.

Helen C. Kwok
Art Unit 2856

hck
November 21, 2007